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| 09/835,532      | 04/16/2001  | Paul A. Kline        | 2171-013            | 5414             |

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| EXAMINER |
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TRIEU, VAN THANH

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| ART UNIT | PAPER NUMBER |
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2636

DATE MAILED: 10/02/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/835,532

Applicant(s)

KLINE, PAUL A.

Examiner

Van T Trieu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 January 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 10-56 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 37-43 is/are allowed.
- 6) ☒ Claim(s) 10-14, 21, 29-35 and 44-56 is/are rejected.
- 7) ☒ Claim(s) 15-20 and 22-28 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6&8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 44 is objected to because of the following informalities: claim 44 is depended on a canceled claim number 1. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 10, 13, 14, 21, 29-32, 34, 44, 47, 48 and 52-56 are rejected under 35 U.S.C. 102(e) as being anticipated by **Yee et al** [US 6,300,881].

Regarding claim 10, the claimed aggregation device (the data path between the medium voltage power line at local node 40 and the customers 45 via wire links 53, see Figs. 2 and 5, col. 4, lines 39-64, col. 5, lines 53-56 and col. 8, lines 9-49); and the first transformer (the power transformers located at each local node 40 or on utility poles near corresponding customer locations 45, see Figs. 2 and 5, col. 4, lines 47-60); and the plurality of customer power lines to provide a data path bypassing the first transformer (the customer power lines 53, see Figs. 2 and 5); and the data is communicated between the transformer bypass device and the aggregation device via the medium voltage power line (the data or message 86 is communicated between the

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transformer bypass OLC signal bridge 123 and the transceiver 60 and/or PLC transceiver 66, see Figs. 2, 3 and 5, col. 4, lines 39-66, col. 5, lines 53-59, col. 6, lines 25-46, col. 8, lines 9-49 and col. 9, lines 1-6).

Regarding claim 13, all the claimed subject matters are cited in respect to claim 10 above, and including the optical fiber wire lines, see col. 2, lines 67.

Regarding claim 14, all the claimed subject matters are cited in respect to claim 10 above, and including the RF, fiber-optic or satellite wireless links, see Figs. 1, 2 and 6, col. 2, lines 65-67.

Regarding claim 21, all the claimed subject matters are cited in respect to claim 10 above, and including the destination address, col. 6, lines 13-66.

Regarding claim 29, the method claimed limitations are met by the apparatus claim 10 above, and including the modulating and demodulating signals, see col. 6, lines 13-46.

Regarding claim 30, all the claimed subject matters are cited in respect to claim 29 above.

Regarding claim 31, all the claimed subject matters are cited in respect to claim 29 above, and including telephone data, see col. 9, lines 50-54.

Regarding claim 32, all the claimed subject matters are cited in respect to claim 29 above, and including the Internet, see col. 9, lines 54.

Regarding claim 34, all the claimed subject matters are cited in respect to claim 29 above, and including the audio data, see col. 10, lines 1-5.

Regarding claim 44, all the claimed subject matters are cited in respect to claim 29, above, and including the modem 122, see Fig. 5.

Regarding claim 47, all the claimed subject matters are cited in respect to claims 10 and 32 above.

Regarding claim 48, all the claimed subject matters are cited in respect to claim 47 above, and including the modem 80 and 122, see Figs. 3 and 5.

Regarding claim 52, all the claimed subject matters are cited in respect to claims 10 and 32 above, and including the modem 80 and 122, see Figs. 3 and 5.

Regarding claim 53, all the claimed subject matters are cited in respect to claims 32 and 52 above.

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Regarding claim 54, the method claimed limitations are met by the apparatus claims 10 and 31 above.

Regarding claim 55, all the claimed subject matters are cited in respect to claim 54 above.

Regarding claim 56, all the claimed subject matters are cited in respect to claim 54 above, and including the second transmitted data package 86 as one of a plurality data packages, see Figs. 1 and 4, col. 6, lines 49-67 and col. 7, lines 1-2.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 11, 12, 45, 49 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yee et al** [US 6,300,881] in view of **Strom et al** [US 4,642,607].

Regarding claim 11, the claimed modem (modem 122, see Fig. 5, col. 8, lines 21-37); but **Yee et al** fails to disclose the isolation device in communication with the modem and the medium voltage power line. However, **Yee et al** teaches that the modem 122 is connected to a controller 107, a power sensing element 112, A/D converter 114, transformer and the PLC signal bridge 123 for communicating data between the modem

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and the power line 110, see Fig. 5, col. 8, lines 9-65 and col. 9, lines 1-6. **Strom et al** suggests that a power line carrier communication system transformer bridge including coupling means adapted for connection to a power line communication network for receiving original message bit streams and for coupling relayed original message bit streams onto a power line communication network. The capacitors 200 coupled between the system transformer 204 and power lines for isolating the input 208, 480/575 voltage A-C power line phases, A-C from another while permitting data transfer onto each differently phased power line, see Fig. 1 and 4, col. 8, lines 17-29. Therefore, it would have been obvious to one skill in the art at the time the invention was made to substitute the transformer with isolation capacitors of **Strom et al** for the transformer of **Yee et al** for the transformer of **Yee et al** for permitting receiving of messages transmitted on one phase line of a multi-phased power system, which will increase data power line transmission capacity and reliability.

Regarding claim 12, all the claimed subject matters are discussed between **Yee et al** and **Strom et al** in respect to claims 10 and 11 above, and including the transceiver coupler and/or the data link coupler 133, see Figs. 5 and 6.

Regarding claim 45, all the claimed subject matters are cited in respect to claims 11 and 44 above.

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Regarding claim 49, all the claimed subject matters are discussed between **Yee et al** and **Strom et al** in respect to claims 10 and 47 above.

Regarding claim 50, all the claimed subject matters are discussed between **Yee et al** and **Strom et al** in respect to claims 10 and 49 above.

2. Claims 33, 46, and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Yee et al** [US 6,300,881] in view of **Binder** [US 6,480,510].

Regarding claim 33, **Yee et al** fails to disclose the first data package signal comprises video data. However **Yee et al** teaches that the multiple data packets 86 could be voices messages, see col. 4, lines 14-30 and col. 10, lines 1-5. **Binder** suggests that a serial intelligent cells SIC 700-708 are connected by one or more conducting wire pairs 710 of power line for communicating bi-directionally and independently of other communicating pairs in the local are network. The SIC network can be used as a computer bus extender and electrically-conducting media such as video frame grabber card 1014 connected to a video camera 1016, see Figs. 1 and 10, col. 2, lines 47-58, col. 3, lines 60-67, col. 4, lines 1-19 and col. 11, lines 38-58. Therefore, it would have been obvious to one skill in the art at the time the invention was made to use the data packet of **Yee et al** as a video data of **Binder** because the data packet signals are in digital format, which is well known to encode of the audio, video and/or voice messages for communicating there between.



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Regarding claim 46, **Yee et al** fails to disclose the first modem uses Orthogonal Frequency Division Multiplexing. However, **Yee et al** suggests that the network 10 or 40 includes transceiver 62 at the local nodes may receive information data from a corresponding backhaul station within a coverage area. This information data signal is provided to a controller 82 for processing through modem 80 to demodulate the received signals and to re-modulate for transmitting to another destination through a transceiver 62. The transceiver 62 initiates transmissions during time slots over an access channel, which is randomized by frequency hopping to improve network operation environments that have significant interference, see Figs. 3 and 5, col. 6, lines 13-39 and col. 7, lines 33-42. **Binder** suggests that a serial intelligent cells SIC 700-708 are connected by one or more conducting wire pairs 710 of power line for communicating bi-directionally and independently of other communicating pairs in the local area network. The electrical power can be combined with local area network data using frequency domain multiplexing, see Figs. 1 and 10, col. 1, lines 49-66, col. 3, lines 60-67, col. 4, lines 1-19 and col. 8, lines 2-14. Therefore, it would have been obvious to one skill in the art at the time the invention was made to substitute the frequency domain multiplexing of **Binder** for the frequency hopping of **Yee et al** in order to allow sharing of bandwidth between multiple stations or customers, which will increase the transmission capacity without losing data.

Regarding claim 51, all the claimed subject matters are discussed between **Yee et al** and **Binder** in respect to claims 46 and 47 above.

***Conclusion***

3. Claims ~~37~~<sup>6</sup>-43 are allowed over the cited prior art.

4. Claims 15-20 and 22-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

**Sanderson** discloses a communication system for providing broadband multimedia services using one or more high-voltage cables of a power distribution network for providing variety of communication needs such as telephone service, video service, internet service, and other services requiring high-speed data transfer. [US 6,040,759]  
**Fisher et al** discloses a power transfer apparatus for concurrently transmitting data and power over data wires comprising a power and data signals are combined for transmission. [US 5,994,998]

6. Any inquiry concerning this communication or earlier communications from examiner should be directed to primary examiner **Van Trieu** whose telephone number is (703) 308-5220. The examiner can normally be reached on Mon-Fri from 7:00 AM to 4:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. **Jeffery Hofsass** can be reached on (703) 305-4717.

The office facsimile number is (703) 872-9314.

A handwritten signature in black ink, appearing to read 'Van Trieu', with a long horizontal flourish extending to the right.

**Van Trieu**  
**Primary Examiner**  
**Date: 9/25/03**